RESEARCH HIGHLIGHTS

August 2002 Technical series 02-125

HEALTHY INDOORS: ACHIEVING HEALTHY INDOOR ENVIRONMENTS IN CANADA

Introduction

Many indoor environments in Canada were just as polluted in 2001 as they were 30 years earlier, despite numerous conferences and reports on the subject since the 1970s. Several leading US authorities, Canada Mortgage and Housing Corporation (CMHC) and others have consistently identified indoor pollution as posing one of the most serious health risks.

In the US, indoor pollution is estimated to cause thousands of cancer deaths and hundreds of thousands of respiratory health problems each year. In addition, thousands of children have experienced elevated blood lead levels resulting from their exposure to indoor pollutants.

The situation in Canada has developed largely because there are no clear structures or national strategies for addressing indoor environments. In contrast to outdoor environment issues, government policy on indoor environments is limited and fragmented.

To address the issue, Pollution Probe launched *Healthy Indoors* in cooperation with a wide range of government, non-government and industry stakeholders. *Healthy Indoors* includes 12 sponsors and 30 supporting partners interested in developing a collaborative and comprehensive multi-stakeholder strategy for creating and maintaining healthier buildings in Canada between 2002 and 2020.

Healthy Indoors
Sponsors and Advisory Committee

CMHC*
Health Canada*
Natural Resources Canada*
Public Works and Government Services Canada*
Canadian Carpet Institute*
Forbo Resilients*
Interface Flooring Inc.*
Molson Breweries
Nike*
Venmar Ventilation*
Pollution Probe
Cullbridge Marketing and Communications

* = Advisory Committee member

Over a three-year period, 1999 through 2001, Pollution Probe and *Healthy Indoors* achieved the following:

- Brought together for the first time various components of the indoor environment issue—legal aspects, best practices and market opportunities for products and services—in the report *Achieving Healthy Indoor Environments: A Review of Canadian Options*

63017

CMHC SCHL
HOME TO CANADIANS
Canada

- Developed a draft national, multi-stakeholder strategy for discussion.
- Created and facilitated an online consultation and community-building forum.
- Facilitated three one-day forums held in Vancouver, Toronto and Halifax and involving 160 stakeholders.
- Revised the draft strategy and formulated action items based on input from the forums.

Pollution Probe's January 2002 report *Healthy Indoors: Achieving Healthy Indoor Environments in Canada* is the culmination of this three-year process. It presents a draft comprehensive national strategy, with five goals and 15 action items, for creating healthier indoor environments in Canada.

Barriers and opportunities

Barriers

The following summary of barriers to improving indoor environments is based on Pollution Probe's initial report *Achieving Healthy Indoor Environments* and on input from participants in the *Healthy Indoors* stakeholder consultations. While there is overall agreement on the barriers noted, participants differed over the priority for each.

- *Regulatory and governmental policies*—Except in the case of occupational health and safety, no one agency possesses the mandate to regulate, remediate or take the lead role in indoor environment problems.
- *Residential indoor air quality guidelines*—Canada's guidelines may not be adequate to protect susceptible populations such as children and seniors, and have not kept pace with standards in other countries. For example, Canada's guideline for radon gas is five times higher than the US standard.
- *Building codes*—These have not been very specific about means of avoiding indoor environment problems, although the move towards objective-based codes provides opportunities for applying new approaches.
- *Existing housing*—Evidence suggests that homes undergoing renovation rarely include measures to improve energy efficiency or the quality of the indoor environment.
- *Limited knowledge and awareness*—Air pollution continues to be perceived as an outdoor problem, although much of our time is spent in indoor environments.
- *Industry fragmentation*—Potential customers are not readily aware of the growing array of products and services available for creating healthy indoor environments, and consumer confidence tends to be low given the fact that many companies are relatively small and new.
- *Research*—Although Canada has distinguished itself as a leader in building science research, many gaps in knowledge remain, particularly on the relationship between indoor environments and human health. A decline in publicly funded research and a greater focus on higher profile outdoor environmental health issues work against further research on indoor health issues.
- *Product labeling*—Consumer building products in North America are essentially exempt from disclosure of product constituents, for reasons of proprietary or trade secret protection. Hence, purchasers cannot make informed choices.
- *Poverty: cultural status*—Low-income people tend to live in older homes or low-rent housing where they are exposed to higher levels of chemical and biological contaminants. Aboriginal communities are particularly affected by poor housing conditions, and Aboriginal children suffer more respiratory disease and other health problems than non-Aboriginal children.

Opportunities

Turning barriers into opportunities requires supportive policy measures, performance-based regulations, voluntary agreements and a commitment on the part of many individuals and organizations. This is the purpose behind the Healthy Indoors initiative: to bring together committed organizations to identify opportunities, resources and policy tools necessary for achieving healthier indoor environments in Canada.

An urgent need for improved communication and coordination among those interested in healthy indoor environments emerged in the consultations held across Canada. Many groups and organizations have separately embarked on overlapping programs. Pollution Probe proposes an indoor environment secretariat be created,

referred to in the report as the "Healthy Indoors Partnership" (HIP), to advocate on behalf of, coordinate activities for and expand the number of organizations and individuals working for healthier indoor environments. It would also be responsible for monitoring and reporting on progress, in addition to reporting from government departments and agencies, such as Health Canada, CMHC and Natural Resources Canada (NRCan).

Goals and recommended action items

The *Healthy Indoors* consultations and forum identified key indoor environment priorities, organized into five main goals. The report presents the rationale for each action item; provides an implementation plan; identifies the players; proposes timing; indicates who is responsible for monitoring; and states how performance will be reported.

Goal 1

Achieve major health gains and improve professional education:

- *Action Item 1*—Health Canada should coordinate federal and provincial activities related to the indoor environment.
- *Action Item 2*—The federal government, led by Health Canada, should establish an integrated indoor environment research agenda.
- *Action Item 3*—Health Canada should review and, if necessary, revise the existing Exposure Guidelines for Residential Indoor Air Quality
- *Action Item 4*—Health Canada should review and, if necessary, revise the existing guideline for radon.
- *Action Item 5*—The Healthy Indoors Partnership will coordinate the development and implementation of initiatives that raise awareness and knowledge among health care professionals.

Goals 2 and 3

Foster the design of healthier new and renovated buildings, and stimulate nationwide action to enhance and maintain health in existing structures:

- *Action Item 6*—The federal government, led by CMHC, should promote the formation of integrated project teams and the adoption of best practices to achieve healthier indoor environments.
- *Action Item 7*—Health Canada should retain accounting professionals to investigate, develop and eventually apply the appropriate metrics to measure and demonstrate the costs and benefits of healthy indoor environments.
- *Action Item 8*—The federal government, led by Industry Canada, should develop and implement policy supportive of related voluntary initiatives.
- *Action Item 9*—NRCan should develop and promote building system performance targets, and rating systems and standards.
- *Action Item 10*—The federal government, led by CMHC and NRCan, should develop and implement a national strategy to improve the indoor environment and energy efficiency of existing buildings.

Goal 4

Create and use innovative healthy products, materials and technologies:

- *Action Item 11*—The federal government led by Health Canada and CMHC should take the lead in promoting the development and use of lower-emission products.
- *Action Item 12*—The federal government led by Industry Canada should take the lead in promoting the development and use of monitoring and control technologies.

Goal 5

Promote health-conscious individual behaviour and consumer awareness:

- *Action Item 13*—The federal government in cooperation with the Healthy Indoor Partnership will strengthen professional education and designations for building and maintenance professionals.
- *Action Item 14*—The federal government led by Health Canada in cooperation with the provinces and relevant stakeholders will develop and promote children's and school-based campaigns.
- *Action Item 15*—The Healthy Indoors Partnership will develop and implement a sustained, broad-based social marketing campaign on healthy indoor environments.

Conclusions

Healthy Indoors outlines an ambitious strategy and blueprint to address indoor environment issues in Canada. To keep the process moving forward, Pollution Probe proposes the creation of a Healthy Indoors Partnership (HIP) involving industry, government and non-government organizations to coordinate activity in this area. HIP's initial tasks would be to review the action items, set priorities and develop implementation strategies and performance measurement systems. It would then be responsible for monitoring outcomes and overseeing the development of new or corrective action items to keep moving forward.

Anyone interested in monitoring progress or offering suggestions on additional actions or solutions is invited to visit the Web site at www.healthyindoors.com.

Project Manager: Thomas Green, Senior Researcher, CMHC

Research Report: *Achieving Healthy Indoor Environments: A Review of Canadian Options*, 2000 *and Healthy Indoors: Achieving Healthy Indoor Environments in Canada*, 2002

Both reports are available through Pollution Probe @ (416) 926-1907

Research Consultants: Ian Morton, Pollution Probe and Jay Kassirer, Cullbridge™ Marketing and Communications

Housing Research at CMHC

Under Part IX of the *National Housing Act*, the Government of Canada provides funds to CMHC to conduct research into the social, economic and technical aspects of housing and related fields, and to undertake the publishing and distribution of the results of this research.

This fact sheet is one of a series intended to inform you of the nature and scope of CMHC's research.

To find more *Research Highlights* plus a wide variety of information products, visit our Web site at

www.cmhc.ca

or contact:

Canada Mortgage and Housing Corporation
700 Montreal Road
Ottawa, Ontario
K1A 0P7

Phone: 1 800 668-2642
Fax: 1 800 245-9274

OUR WEB SITE ADDRESS: www.cmhc.ca

Although this information product reflects housing experts' current knowledge, it is provided for general information purposes only. Any reliance or action taken based on the information, materials and techniques described are the responsibility of the user. Readers are advised to consult appropriate professional resources to determine what is safe and suitable in their particular case. CMHC assumes no responsibility for any consequence arising from use of the information, materials and techniques described.